De-risking wave energy development with innovative procurement

EUROPEWAVE

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PROSPER 2030

A first concept

PROSPER 2030

Procurement-based de-**R**isking **O**f wave energy **S**cale-up for **P**ublic fund**ER**s by **2030**

To advance wave energy converter systems that have been proven at scale in a real sea environment to a point where they are ready for commercial exploitation

The Vision – Bringing wave energy to commercial-scale with innovative procurement

Stage	TRL
Stage 0	1
Stage 1	2 3
Stage 2	4
Stage 3	5 6
Stage 4	7 8
Stage 5	9

Early (1-3)
Analytical and numerical models

Mid (3-6)
Experimental tests in controlled environment

Late (6-9)
Experimental tests in representative environment

EUROPEWAVE — *2021 -2026*

PROSPER — *2026 -2030*

2030

PROSPER 2030 - Entry Requirements

Entry requirements / eligibility criteria:

Evidence that technology has been '**Proven at scale in a real sea environment**'

= TRL6 ***or*** completion of Stage 3 of IEA-OES's '*Evaluation & Guidance Framework*'

Stage	Description	TRL
Stage 1	Concept development	1 2 3
Stage 2	Design optimisation	4
Stage 3	Scaled demonstration	5 6
Stage 4	Commercial-scale single device demonstration	7 8
Stage 5	Commercial-scale array demonstration	9

- Involve CA?

Pre PROSPER

Experimental tests in controlled

Image taken from:
An International Evaluation and Guidance Framework for Ocean Energy Technol

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PROSPER 2030 - Entry Requirements

Entry requirements / eligibility criteria:

Evidence that technology has been '**Proven at scale in a real sea environment**'

= TRL6 ***or*** completion of Stage 3 of IEA-OES's '*Evaluation & Guidance Framework*'

- Evidence ?
    - Time in the water
    - Due Diligence
    - Involve CA?
- Prequalification Frawework ¿?
- Potentia Activity gap between Post-EuropeWave and Prosper Entry

Image taken from:
An International Evaluation and Guidance Framework for Ocean Energy Technology, IEA-OES, 2021

PROSPER 2030 - Entry Requirements

Achievement of the objective:

Devices are '**Ready for commercial exploitation**'

= TRL 8 ***or*** completion of Stage 4 of IEA-OES's '*Evaluation & Guidance Framework*.

Stage	Description	TRL
Stage 0	Concept	1
Stage 1	Concept development	2
Stage 2	Design optimisation	4
Stage 3	Scaled demonstration	5 6
Stage 4	Commercial-scale single device demonstration	7 8
Stage 5	Commercial-scale array demonstration	9

PROSPER 2030

Post PROSPER

Late (6-9)
Experimental tests in representative environment

Image taken from:
An International Evaluation and Guidance Framework for Ocean Energy Technol

How PROSPER 2030 will achieve this objective

- Participating public authorities fund wave energy technologies that are capable of generating **a minimum specified energy yield** within a designated timeframe
- Deployments will take place **at designated sites** within the territories of participating authorities
- Ideal outcome: **3 or 4 full-scale wave devices tested across Europe** for circa 2 years in late 2020s

Timelines / building a coalition

Preparatory work has already begun

2022 / 2023

- Develop & refine concept
- Approach public authorities to build interest in participation

2024

- Include call in 2025/27 Horizon Work Programme
- Strengthen interest & commitment amongst public authorities

2025

- Firm funding commitment from public authorities
- Form coalition of public authorities & apply to Horizon call

Late 2026 / early 2027

- Kick-off of PROSPER 2030
- Procurement/funding call likely to open circa 6 months later

Late 2020s

- Selected devices in the water

2022-2023: Work to date

- Public authorities can purchase R&D services **at a market rate**
- Informed – authorities define in detail **what they expect**
- No obligation for technology developers to **match-fund**
- **Continuity** for technology developers
- Multi-contract phased approach – **avoids 'lock in'**
- **Pooled experience** several authorities
- Can create **base industry standards** for future market